Ronald McDonald T.M.

Map of Outer Space

McDonald's

MOON FACTS

Distance from Earth:
Mean: 238,860 miles
Maximum: 252,710 miles
Minimum: 221,463 miles
Diameter: 2,160 miles (about 27% of the diameter of Earth).
Surface Gravity: 0.165 (approximately 1/6 of Earth's surface gravity).
Mean Velocity in Orbit: 6.36 miles per second or about 22,896 miles per hour.
Length of Time from One New Moon to the Next: 29.53 days (one orbit around Earth in respect to the sun as starting and finishing point—called the Synodic Period, or month).
Surface Temperature:
Day: 214 degrees above zero Fahrenheit (approximately)
Night: 250 degrees below zero Fahrenheit (approximately)
Atmosphere: Essentially none.

On the Moon, Ronald McDonald jumps 18 feet to stop a hard drive over second base.

SOME SPORTS FACTS

If we could live and play on the Moon, some sports facts would change. (Moon's gravity about 1/6 of Earth's.)

	On Earth	On the Moon
Baseball Hit	300 feet	1800 feet
Running Stride	4½ feet	27 feet
Jump to Catch Ball	3 feet	18 feet
Football Pass	30 yards	180 yards
Golf Drive	200 yards	1200 yards
Some World Records		
Pole Vault	17' 9"	106' 6"
High Jump	7' 5¾"	45'
Long Jump	29' 2½"	175' 3"
Shot Put	71' 5½"	428' 9"
Javelin Throw	300' 11"	1805' 6"

And now if you'd like to know how much you'd weigh on the moon: divide your weight by 6. For example, 102 pounds divided by 6=17 pounds. Just a feather-weight, no less.

Space Ship Time Schedule

Leaving Earth for	Speed 25,000 mph Arrive	Minimum Distance from Earth (in miles)
Moon	8⅘ hours	221,463
Venus	43⅕ days	26,000,000
Mars	57⅘ days	34,600,000
Mercury	83⅕ days	50,000,000
Jupiter	611⅘ days	367,000,000
Saturn	1241⅘ days	745,000,000
Uranus	2681⅕ days	1,608,800,000
Neptune	4466 days	2,679,600,000
Pluto	4446⅕ days	2,668,000,000

Interplanetary Weight Chart

IF YOUR EARTH WEIGHT IS—	You Would Weigh on — (to the nearest pound) MOON	SUN	VENUS	MARS	JUPITER
70 lb.	11	1932	60	27	185
80 lb.	13	2231	68	30	211
90 lb.	14	2510	77	34	238
100 lb.	16	2789	85	38	264
110 lb.	18	3068	94	42	290
120 lb.	19	3347	102	46	317
130 lb.	21	3626	111	49	343
140 lb.	22	3905	119	53	370
150 lb.	23	4184	128	57	396
160 lb.	25	4462	136	61	422
170 lb.	27	4741	145	65	449
180 lb.	28	5020	153	68	475
190 lb.	30	5299	162	72	502
200 lb.	32	5578	170	76	528

ENTER YOUR → WEIGHT

248.43 Years
164.79 Years
84.02 Years
29.46 Years
11.86 Years
1.88 Years
365.25 Days
224.7 Days
88 Days

1,787,000,000
887,000,000
494,000,000
141,000,000
93,000,000
67,250,000
36,000,000

ASTEROIDS
1,500 to 50,000 known
CERES
EROS

MILKY WAY GALAXY
120,000 Light Years Diameter

PLUTO
3,600 MI. DIA.
Unknown

URANUS
32,000 MI. DIA.
10 Hrs., 40 Min.

NEPTUNE
31,000 MI. DIA.
15 Hrs., 40 Min.

MARS – 4,220 MI. DIA.
24 Hrs., 37 Min.

JUPITER – 88,700 MI. DIA.
9 Hrs., 55 Min.

SATURN – 71,600 MI. DIA.
10 Hrs., 14 Min.

MERCURY – 3,100 MI. DIA.
88 Days

VENUS – 7,700 MI. DIA.
Unknown

SUN
25 Days

Distance From Sun (in miles)

SUN SPOTS

100,000 Miles
SOLAR PROMINENCE

ANTARES
300 Times the Size of the Sun

Earth's Moon

EARTH – 7,918 MI. DIA.
23 Hrs., 56 Min.

COMET
100 Miles Per Sec.

MAGELLANIC CLOUDS
12,000 Light Years Diameter
170,000 Light Years Distant

ANDROMEDA GALAXY
1,500,000 Light Years Distant

SATURN
Rings 41,500 Miles Wide

Two pairs of extra-thick sunglasses help Ronald McDonald travel around in the blazing sunshine of Mercury.

Ronald McDonald decides Venus would be no good for a summer or winter resort—too hot, too cloudy, plus a liquid atmosphere.

Ronald McDonald helps open the first McDonald's Restaurant in an igloo on the polar ice caps of Mars.

There is plenty of good paint for Ronald McDonald's spaceship in the Great Red Spot of Jupiter.

The rings of Saturn arching across the sky remind Ronald McDonald of the Golden Arches.

Ronald McDonald likes the green planet Uranus, because it reminds him of springtime on Earth.

Ronald McDonald shivers on Neptune in his special hot-suit—highest temperatures 217 to 358 degrees *below* zero. Fahrenheit, that is.

The dim light from the distant sun, 3,675,000,000 miles away, makes Ronald McDonald feel gloomy on Pluto.

APOLLO 8

First around the moon (from left): Frank Borman, Commander; William A. Anders, Lunar Module Pilot; James A. Lovell, Command Module Pilot.

(Left). With a liftoff thrust of 7½ million pounds, the Saturn V space vehicle hurled the Apollo 8 astronauts into space.

Apollo 8 was the epic mission which took man for the first time beyond the gravitational grasp of Earth. It was the big breakthrough for NASA.

One of the historical "firsts" made by A-8 was the astronauts' reconnaissance of the moon from only 70 miles above its arid, silver-gray, and seemingly forbidding surface. Out of this came William Anders' enthusiastic vote for site II-P-2, in the Sea of Tranquility, as his personal choice of the five places under consideration for the man-on-moon landing now so soon to occur. NASA officials have accepted his evaluation, and his clear, revealing photographs, and themselves now are calling II-P-2, "No. 1."

From the engineering and control aspects, A-8 resolved lingering doubts about the 20,500-pound thrust service propulsion system (SPS) rocket engine which, as Frank Borman said, "At certain stages . . . just has to work." It did—and, with heart-warming accuracy, too. Thrust impute were controlled down to half-a-foot per second velocity adjustments, much closer than NASA or its builders had hoped. Also the self-igniting (hypergolic) propellant—50/50 mix of monomethyl hydrazine and UMDH as fuel, nitrogen tetroxide as oxidant—supplied thrusts for an early mid-course translunar correction, for insertion into lunar orbit, for circularization of that orbit, and then, most important, for the trans-Earth injection, the only means for the astronauts to return home.

The precision of A-8, throughout, astounded even its participants and Mission Control. An example: an error in velocity of just over one foot a second in the transluyar injection could have meant collision with the Moon instead of a flyby on the far side at an elevation of only 70 miles above the wild, meteor-pocked surface.

As the astronauts came from behind the moon after the lunar orbit insertion burn, they photographed Earth about 5 degrees above the moon's horizon.

APOLLO 9

Apollo 9 crew (from left): Russell L. Schweickart, Lunar Module Pilot; David R. Scott, Command Module Pilot; James A. McDivitt, Commander.

After the drama of its predecessor, Apollo 9 appeared workaday, but important decisions were contingent upon it. The flight introduced to operational levels a fourth generation space vehicle—the lunar landing module. It is big (weight inclusive of fuel 33,000 pounds) and double-barreled, incapable of Earth reentry, and actually only susceptible to final testing in its true environment—space.

The flight was made to exercise LM-3 in every way it must perform on its sub-voyage from the command unit to the moon's surface and return—except that it carried out this check flight while orbiting Earth.

In orbit, the LM was extracted from its initial launch storage place at the front, or upper section, of the Saturn V's third stage, the S-IVB unit, an that its docking tunnel could be "hard mated" with the command capsule. After completing these maneuvers, the largest link-up of American spacecraft, McDivitt and Schweickart transferred, through the docking tunnel, from the command vehicle into the LM's cabin. They then powered-up and exercised all systems in "docked condition," that is, still mated.

Schweickart went outside the LM with the portable life-support system (PLSS) strapped to his back and did a successful 40-minute space walk along the handrail leading to the command module. The walk proved that it will be possible for the moon-landing astronauts to make their way back into the command module even though mating hatches might be damaged in rendezvous maneuvers or a docking, for some unforeseen reason, might be impossible to accomplish.

The adapter panels are open and the command service module separates to begin its turn around in space to dock with the lunar module.

The LM was separated from the command unit. Its descent engine was fired in a guidance control system demonstration, and the reaction control rockets (attitude adjusters) permitted maneuvering near the command system. Finally, the LM descended about 10 miles below and over 100 miles behind the command module—a fair simulation of the requirement when the astronauts leave orbit for lunar surface in their return maneuvers. At this time the descent half of the LM was discarded, and the ascent engine lighted off to return the vehicle for redocking with the command capsule.

The LM crew returned via tunnel to the command section, and after the LM was undocked its ascent engine was commanded by radio signal to burn to depletion. This increased the LM's velocity and shifted its orbit, thus clearing the way for the command capsule to later carry out safe deorbiting and splashdown.

APOLLO 10

Apollo 10 crew (from left): Eugene A. Cernan, Lunar Module Pilot; John W. Young, Command Module Pilot; Thomas P. Stafford, Commander.

With a burst of flaming power, Apollo 10 made a perfect lift-off from Cape Kennedy at 12:49 p.m., EDT, May 18, 1969. The 8-day round trip was a successful dress rehearsal for a lunar landing—but without landing the Lunar Module (LM), now affectionately called Snoopy.

Shortly after the space vehicle was on translunar course, the first color TV broadcast ever transmitted from space came from the Command Module, nicknamed Charlie Brown.

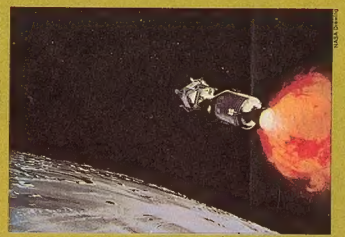
An elliptical lunar orbit was accomplished as planned and adjusted to a circular 2-hour orbit at an altitude of 69 miles.

Thursday, May 22, was the big day. Snoopy undocked from Charlie Brown and descended to make the first pass, at an altitude of 9 miles, over the Sea of Tranquility, near the crater Moltke, presently planned landing site for Apollo 11. Stafford and Cernan described the site as "pretty smooth, like wet clay, like a dry river bed in New Mexico or Arizona."

Snoopy returned for a second pass over the landing site. At about 13½ miles above the Moon the descent stage was jettisoned. Snoopy went into violent gyrations. The flipping of a switch had not been included on the checklist. Stafford stabilized the pitching craft with the hand control. The second pass of the landing site was made at an altitude of about 10 miles. Then the craft was put through all the maneuvers Apollo 11 will make after lift-off from the Moon. Docking was accomplished after Snoopy had been in flight 8 hours and 10 minutes.

Shortly after the beginning of the 32nd revolution on Saturday, the engine was fired and Charlie Brown swooped out from behind the Moon on course to the Earth after more than 61 hours of lunar orbiting. Spectacular color TV views of the Moon were broadcast as the spacecraft sped homeward.

An accurate splashdown was made in the dim light before sunrise in the South Pacific, about 440 miles east of Pago Pago, American Samoa, at 12:52 p.m., EDT, May 26.



Upon arrival at a precisely computed position, the commander fires the engine of the service module to put the spacecraft into orbit around the moon.

APOLLO 11

Apollo 11 crew (from left): Edwin R. Aldrin, Jr., Lunar Module Pilot; Neil A. Armstrong, Commander; Michael Collins, Command Module Pilot.

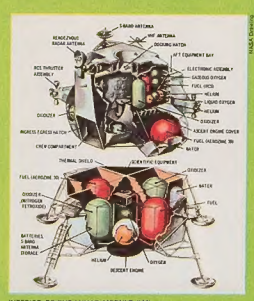
Immediately after Apollo 10's splashdown, the success of the mission prompted the administrator of the nation's space program to state "We know we can go to the Moon." The only question left, Dr. Thomas O. Paine said, was the date of lift-off from Earth. It is now set for July 16, with the landing on July 20 at Site No. 2 on the Sea of Tranquility. If the launch is delayed, it can be made any day up to July 22. A further delay would mean no launch until August, because the Moon's position in relation to Earth, and the lighting conditions at the touchdown sites are favorable only 6 days during each month.

Should Earth departure be delayed, but still be in July, lunar orbiting will be continued until sunrise moves across the moonscape to illuminate in order the other sites: No. 3 in Central Bay, Nos. 4 and 5 close together in the Ocean of Storms toward the western limb (horizon). These would be illuminated on alternate days. In any case, the earliest date for a man on the moon is July 20.

As this is being written, there appears to be no reason for a rescheduling to an August lift-off. The Saturn V space vehicle, the Command Service Module, and the Lunar Module have proven spaceworthy. And the expertise demonstrated by all the astronauts is such that they must be rated "operationally certified."

Apollo 11 will be the "fulfillment flight"—the attainment of NASA's founding goal.

Apollo 12 and Apollo 13 are in "hardware" and could fly before the end of 1969. Man has broken the shackles of gravity and learned much about his space companion, the Moon. Perhaps, in the not too distant future he will successfully venture farther out into space.



INTERIOR OF THE LUNAR MODULE (LM)

(Right). The lunar module, with Commander and LM Pilot aboard, separates from the command service module to begin its descent to the moon.

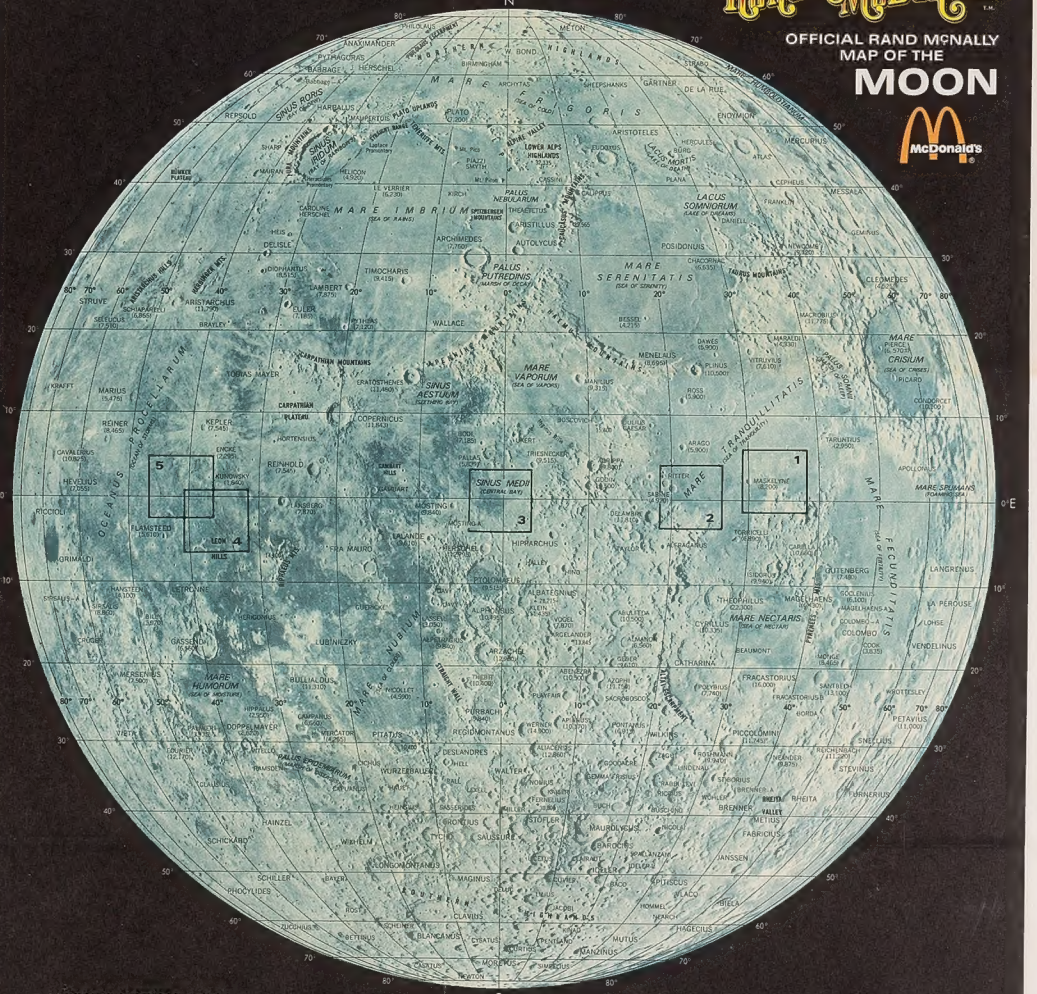
(Below). While the two astronauts explore, gather samples, and place instruments on the moon, the Command Module Pilot will keep the spacecraft in lunar orbit.

Ronald McDonald

OFFICIAL RAND McNALLY MAP OF THE

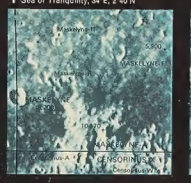
MOON

McDonald's

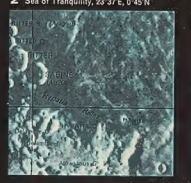


LUNAR LANDING SITES

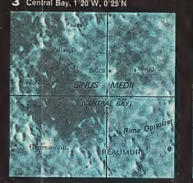
1 Sea of Tranquility, 34° E, 2° 40' N



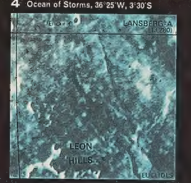
2 Sea of Tranquility, 23° 37' E, 0° 45' N



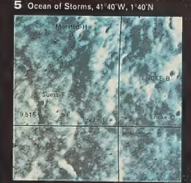
3 Central Bay, 1° 20' W, 0° 25' N



4 Ocean of Storms, 36° 25' W, 3° 30' S



5 Ocean of Storms, 41° 40' W, 1° 40' N



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